

**Notice of Allowability**

Application No.

10/659,290

Examiner

Christopher Verdier

Applicant(s)

BASSOT ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Amendment dated 11-23-04 and the telephone interview of 2-15-05.
2. ☒ The allowed claim(s) is/are 1,3-13 and 16-23.
3. ☒ The drawings filed on 11 September 2003, 23 November 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Philippe J. C. Signore, Attorney of Record, on February 15, 2005.

The application has been amended as follows:

In the Claims:

Claim 5 has been rewritten as follows:

-- Claim 5 (Currently Amended): A fan rotor comprising:

a disk having a rim with a plurality of substantially axial grooves that are spaced apart;

a plurality of blades extending radially outwards from said disk, each blade having a blade root in a respective groove;

an upstream flange plate configured to prevent the blade roots from sliding out of the grooves; and

a plurality of axial spacers coupled to said upstream flange plate, each axial spacer being configured to prevent an axial displacement of one of the blades in a respective groove,

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wherein each of said axial spacers comprises a peg in an orifice of the upstream flange plate, and

wherein said peg is an elastomer peg. --

Claims 14-15 are canceled.

New claim 23 is added as follows:

-- Claim 23 (New): A fan rotor comprising:

a disk having a rim with a plurality of substantially axial grooves that are spaced apart;

a plurality of blades extending radially outwards from said disk, each blade having a blade root in a respective groove;

an upstream flange plate configured to prevent the blade roots from sliding out of the grooves;

a plurality of axial spacers coupled to said upstream flange plate, each axial spacer being configured to prevent an axial displacement of one of the blades in a respective groove; and

a root spacer interposed between each blade root and a bottom of a corresponding groove, wherein the root spacer has a radially-extending lug bearing against an upstream face of said blade root, and

wherein each of said axial spacers comprises a shank in an orifice of the upstream flange plate and further comprises a head of diameter greater than that of said orifice. --

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The above changes to the claims have been made to place the application in condition for allowance, for the reasons set forth below.

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

Claim 5 is directed towards an unobvious improvement over the invention patented in U.S. Patent 4,405,285. U.S. Patent 4,405,285 discloses a fan rotor substantially as claimed, including a disk 2 having a rim 1 with a plurality of substantially axial grooves 3 that are spaced apart, a plurality of blades 10 extending radially outwards from the disk, with each blade having a blade root 11 in a respective groove, an upstream flange plate 24 configured to prevent the blade roots from sliding out of the grooves, and a plurality of axial spacers 15 coupled to the upstream flange plate, with each axial spacer being configured to prevent an axial displacement of one of the blades in a respective groove, with each axial spacer comprising a peg 22 in an orifice 26 of the upstream flange plate. The improvement comprises each of the axial spacers comprising an elastomer peg. None of the prior art of record discloses or suggests the improvement.

Claim 23 is directed towards an unobvious improvement over the invention patented in U.S. Patent 6,595,755. U.S. Patent 6,595,755 (figures 1-2) discloses a fan rotor substantially as claimed, including a disk 2 having a rim 9 with an unnumbered plurality of substantially axial grooves that are spaced apart, a plurality of blades 3 extending radially outwards from the disk, with each blade having a blade root 4 in a respective groove, an upstream flange plate 8

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configured to prevent the blade roots from sliding out of the grooves, and a plurality of axial spacers 25 coupled to the upstream flange plate, with each axial spacer being configured to prevent an axial displacement of one of the blades in a respective groove, a root spacer 7 interposed between each blade root and a bottom of a corresponding groove, with the root spacer having an unnumbered radially-extending lug bearing against an upstream face of the blade root near 27. The improvement comprises each of axial spacers comprising a shank in an orifice of the upstream flange plate and a head of diameter greater than that of the orifice. Although U.S. Patent 4,405,285 shows axial spacers 15 each comprising a shank 22 in an orifice 26 of an upstream flange plate 24 and a head 16 of diameter greater than that of the orifice, attempting to combine the teachings of U.S. Patent 4,405,285 with U.S. Patent 6,595,755 would not result in the claimed invention, because U.S. Patent 4,405,285 teaches against the claimed combination in that the head 16 of the shank 22 rests against the disk 2 and is received in slots 5 in the rotor, while U.S. Patent 6,595,755 teaches that the lugs of the root spacers 7 abut against the flange plate 8 at 28. Therefore, both U.S. Patent 4,405,285 and 6,595,755 teach against the claimed combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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*Prior Art*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Surdi 5,540,552 is cited to show a rotor disk having an upstream flange plate coupled to the rotor and having plural axial spacers coupled to the upstream flange plate that are each configured to prevent an axial displacement of respective blades in respective grooves of the disk.

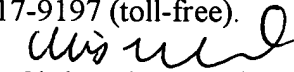
French Patent 2,561,307 is cited to show a rotor disk having an upstream flange plate coupled to the rotor and having plural axial spacers coupled to the upstream flange plate that are each configured to prevent an axial displacement of respective blades in respective grooves of the disk.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.  
February 16, 2005

  
Christopher Verdier  
Primary Examiner  
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